

Conservation speech

The hunting party always consisted of at least three people, my dad, my grandpa, and myself. Growing up they would almost always argue on how to best preserve and the land for farmers while also helping their bottom line. For two men that had never worked a farm a day in their lives, they had incredibly spirited debates about it. But it really shows how important is to farming beyond farmers, Grandpa was an agronomist and Dad is a contractor, both industries that rely on farming. Grandpa preferred the older ways of farming while my Dad prefers the newer ways based in modern technology for what farmers should do. Because of this I believe that farmers need to strike a balance between the old and the new in order to best preserve the land as well as grow the bottom line.

So let's start with the old ways first, namely Tree Lines. FDR made the initial push for tree lines to protect soil from being eroded by the winds of the dust bowl era, and that was very effective, however according to public radio international, recently there has been a push to remove these trees from their lands in an effort to get more row crops, in good years and bad years, it's not good for farmers in a move Agro-forestry officials call, "Short Sighted". We should seriously consider the idea of continually using tree line shelter belts, not only do they stop soil erosion, but they also help with numerous other things such as "The moderation of the microclimate, improve water retention in the soil, provide a nutrient sink for some of the farmland and give shelter to wildlife, including birds that help cut down on insects." Tree lines have so many positives for farmers and ranchers, they certainly shouldn't be overlooked. What might help bottom lines in the short term isn't what's best for our farmers.

Next there's Cover crops. Cover crops are one of the oldest farming practices in the world, ancient civilizations used cover crops for the same reason they're still used, to help

naturally fertilize the soil. Even George Washington used cover crops at Mount Vernon such as buckwheat and clover. However in the post WWII era and the growth of artificial fertilizers have left cover crops on the fringe of farming practices. This is unfortunate, as cover crops are an effective way to reduce nitrate losses from drainage water, as one study by Professor D.B Jaynes of Iowa state University found that using a Rye cover crop reduced Nitrate concentrations in water by 48%, making it the most effective cover crop tested. Cover crops can provide natural fertilization for traditional row crops or a boost to the bottom line as well as helping to keep nitrates in the ground and out of the water, thus better protecting the environment for future generations.

So those are the old ways, but the new ways are also important to consider. Let's start with GM crops. According to an article by The Economist "GM crops can help reduce greenhouse gas emissions genetically modified crops with herbicide-resistant traits can allow farmers to manage weeds without relying on the traditional method of tilling fields. Generally, less tillage results in fewer tractor-related emissions. In 2015 alone, this led to the equivalent of removing twelve million cars from the road." Furthermore this can also increase the yield of crops by protecting them from Insects. According to the USDA "GM corn can fight harmful pests like the corn borer or bollworm. When GM corn is planted, even nearby farms benefit. This genetically modified crop controls insect pest populations so effectively, that neighboring fields experience less pressure from corn borers." GM crops when effectively used can both protect the environment and increase the yields. This is only scratching the surface of what genetically modified crops can do, and can definitely be implemented to help farmers.

Let's also talk about Precision Agriculture. Recently this has become a bit of a buzz-term for modern farming, but it's actually quite broad but is really just integrating technology with

farming to maximise the output of every inch of farmland. It's incredibly broad, and has many different uses, some of the most common ones are using GPS in combines, tractors etc. John Deere made the move in 2001 to outfit their vehicles with GPS tools, and because of the accuracy with GPS, farmers used 40% less fuel while also improving the uniformity and effectiveness of spraying. Some farmers also use technology for smart irrigation, by measuring the water content of the soil using cloud connected sensors, the optimal amount of water can be irrigated to plants, this alone can cut down 20% of water use because it's not as wasteful. This is only scratching the surface of what could be done with the power of technology.

So we've gone over some of the old way of farming and some of the new ways farmers are producing. Everywhere from old fashioned staples such as cover crops and tree lines to the cutting edge of modern technology and genetically modified crops. At the end of the day, to do what's best for the farmer and land, a balance must be struck that incorporates the old with the new, in a way that would satisfy even the most ardent bickering relatives in the hunting party. Thank you for listening.